# Schottky Barrier Rectifier

## FEATURES

- Low forward voltage drop
- Low power loss, high efficiency
- Guardring for overvoltage protection
- High surge current capability
- For use as Bypass diode in Solar application.
- Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21 definition

**R-6**

Pb-Free

RoHS COMPLIANT

## MECHANICAL DATA

**Case:** R-6

Molding compound, UL flammability classification rating 94V-0

Base P/N with suffix "G" on packing code - halogen-free

Base P/N with prefix "H" on packing code - AEC-Q101 qualified

**Terminal:** Matte tin plated leads, solderable per JESD22-B102

Meet JESD 201 class 1A whisker test,
with prefix "H" on packing code meet JESD 201 class 2 whisker test

**Weight:** 1.7 g (approximately)

| MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS ($T_A$=25℃ unless otherwise noted) | | | | | |
|---|---|---|---|---|---|
| PARAMETER | SYMBOL | SR1502 | SR1503 | SR1504 | UNIT |
| Maximum repetitive peak reverse voltage | $V_{RRM}$ | 20 | 30 | 40 | V |
| Maximum RMS voltage | $V_{RMS}$ | 14 | 21 | 28 | V |
| Maximum DC blocking voltage | $V_{DC}$ | 20 | 30 | 40 | V |
| Maximum average forward rectified current | $I_{F(AV)}$ | 15 | | | A |
| Repetitive peak forward current f > 15Hz | $I_{FRM}$ | 60 | | | A |
| Peak forward surge current, 50/60 Hz single half sine-wave superimposed on rated load (JEDEC Method ) | $I_{FSM}$ | 300 / 340 | | | A |
| Rating for fusing t < 10ms | $I^2t$ | 390 | | | $A^2s$ |
| Maximum instantaneous forward voltage @5 A<br>(Note 1) @15 A | $V_F$ | 0.45<br>0.55 | | | V |
| Maximum DC reverse current @$T_J$=25 ℃<br>at rated DC blocking voltage @$T_J$=100 ℃ | $I_R$ | 500<br>20 | | | μA<br>mA |
| Typical thermal resistance | $R_{\theta JL}$<br>$R_{\theta JA}$ | 2.5<br>25 | | | $^{O}$C/W |
| Junction temperature range<br>- in DC forward mode | $T_J$ | - 50 to +150<br><=200 | | | $^{O}$C |
| Storage temperature range | $T_{STG}$ | - 55 to +175 | | | $^{O}$C |

Note 1: Pulse test with PW=300μs, 1% duty cycle

| ORDERING INFORMATION | | | | | |
|---|---|---|---|---|---|
| PART NO. | AEC-Q101 QUALIFIED | PACKING CODE | GREEN COMPOUND CODE | PACKAGE | PACKING |
| SR15xx (Note 1) | Prefix "H" | A0 | Suffix "G" | R-6 | 700 / Ammo box |
| | | R0 | | R-6 | 1,000 / 13" Paper reel |
| | | B0 | | R-6 | 400 / Bulk packing |

Note 1: "xx" defines voltage from 20V (SR1502) to 40V (SR1504)

| EXAMPLE | | | | | |
|---|---|---|---|---|---|
| PREFERRED P/N | PART NO. | AEC-Q101 QUALIFIED | PACKING CODE | GREEN COMPOUND CODE | DESCRIPTION |
| SR1504 A0 | SR1504 | | A0 | | |
| SR1504 A0G | SR1504 | | A0 | G | Green compound |
| SR1504HA0 | SR1504 | H | A0 | | AEC-Q101 qualified |

## RATINGS AND CHARACTERISTICS CURVES

(TA=25℃ unless otherwise noted)

FIG.1 RATED FORWARD CURRENT VS AMBIENT TEMP. CURVE

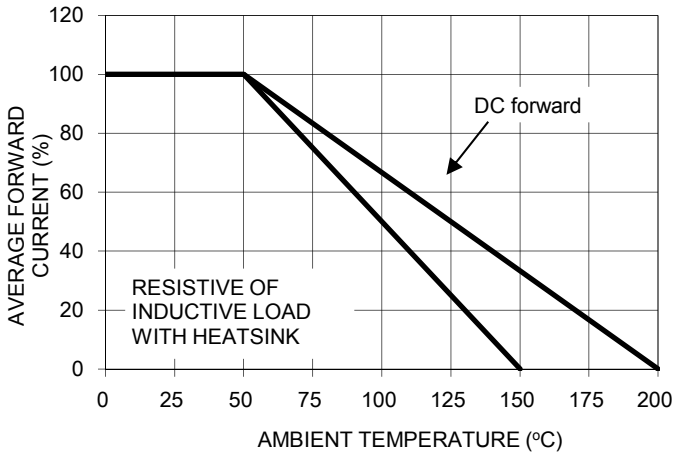



FIG. 2 MAXIMUM FORWARD SURGE CURRENT

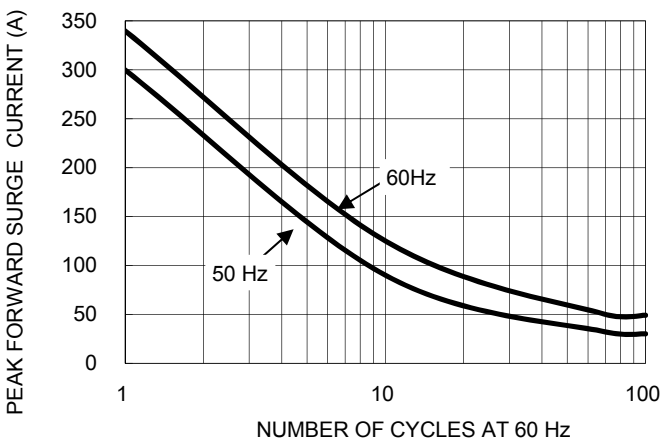



FIG. 3 TYPICAL FORWARD CHARACTERISTICS

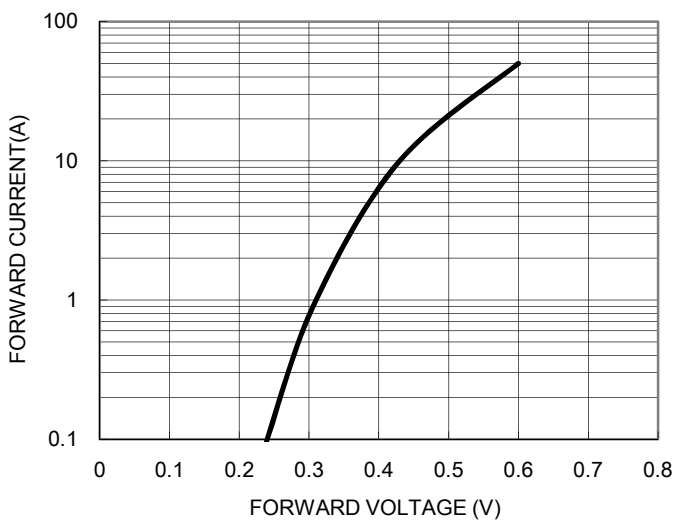



FIG. 4 TYPICAL REVERSE CHARACTERISTICS

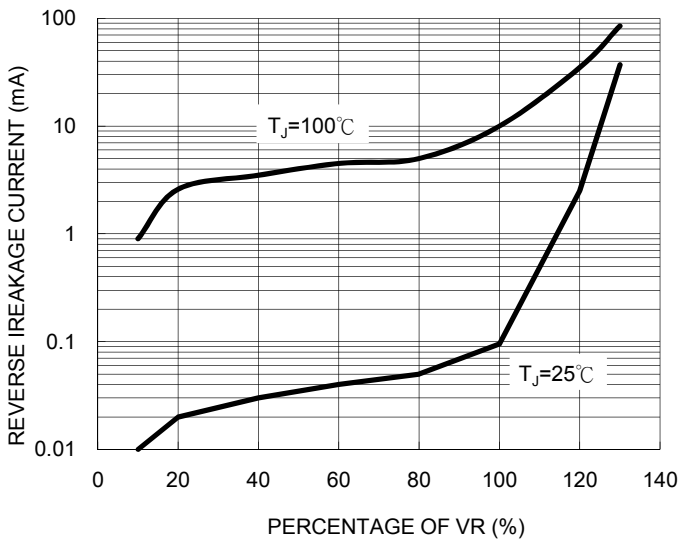


FIG. 5 TYPICAL JUNCTION CAPACITANCE

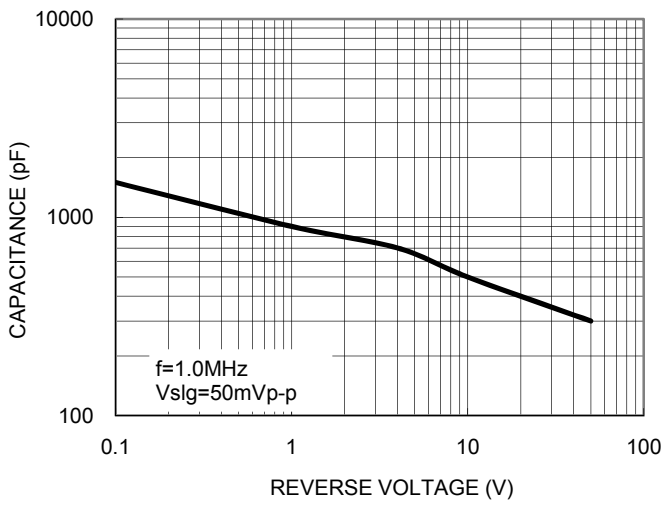
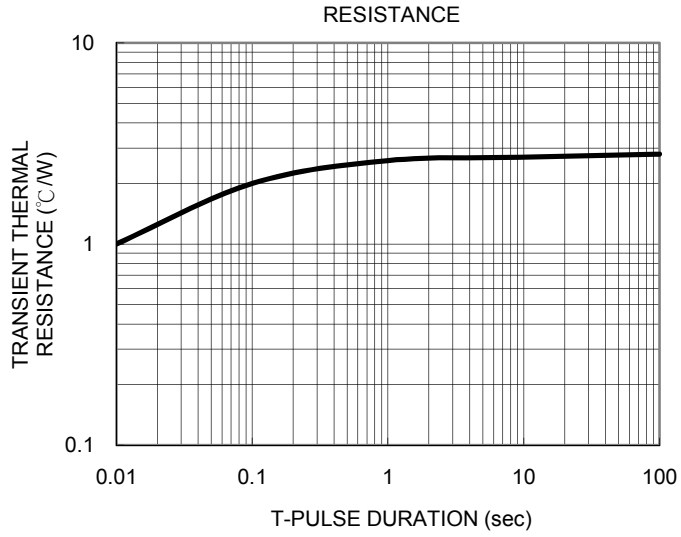
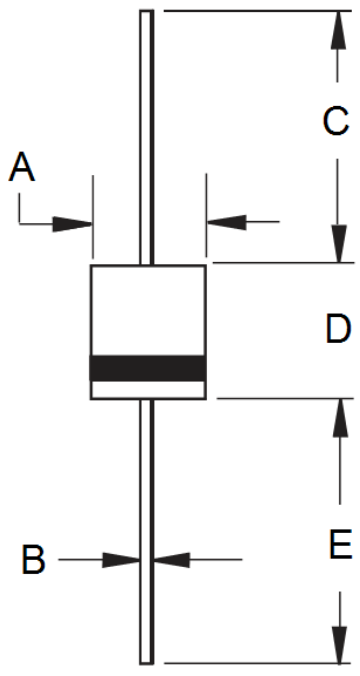



FIG. 6 TYPICAL TRANSIENT THERMAL RESISTANCE




## PACKAGE OUTLINE DIMENSIONS




| DIM. | Unit (mm) | | Unit (inch) | |
|---|---|---|---|---|
| | Min | Max | Min | Max |
| A | 6.80 | 7.20 | 0.268 | 0.283 |
| B | 1.20 | 1.30 | 0.047 | 0.051 |
| C | 25.40 | - | 1.000 | - |
| D | 8.60 | 9.10 | 0.339 | 0.358 |
| E | 25.40 | - | 1.000 | - |

## MARKING DIAGRAM

P/N = Specific Device Code
G = Green Compound
YWW = Date Code
F = Factory Code

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